*Please provide the following information, and submit to the NOAA DM Plan Repository.*

**Reference to Master DM Plan (if applicable)**

*As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.*

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

**1. General Description of Data to be Managed**

**1.1. Name of the Data, data collection Project, or data-producing Program:**
2009 SCDNR Charleston County Lidar

**1.2. Summary description of the data:**
Photoscience completed the original collection and classification of the multiple return LiDAR of Charleston County, South Carolina in the winter of 2006-2007. In 2009, Sanborn collected portions of Charleston County which were previously uncollected in 2006/7.  In 2013, Dewberry was tasked with reviewing, updating and merging the original LiDAR products into one continuous data to include the 2006-2007 and 2009 separate projects.  The 2006/2007 data was separated from the 2009 collected points in order to keep the 2 missions separate (collection dates, standards, data qualities, etc). The 2006-2007 data was removed by analyzing GPS time stamps of the LAS points in order to differentiate by collection year.  The resulting LAS files left only the 2009 points which represent this project.  The 2007 data already exists at OCM as part of a previous delivery. The nominal point spacing for this project is 1.4 meters. Dewberry used proprietary procedures to update and reclassify the LAS according to updated project specifications: 1-Unclassified, 2-Ground, 7-Noise, 8- Model Key Points,  9-Water, 10-Ignored Ground, 13- Points removed from bridges and culverts.

**1.3. Is this a one-time data collection, or an ongoing series of measurements?**
One-time data collection

**1.4. Actual or planned temporal coverage of the data:**
2009

**1.5. Actual or planned geographic coverage of the data:**
W: -80.373467, E: -79.433067, N: 33.516439, S: 32.809321

**1.6. Type(s) of data:**
*(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)*
LAS

**1.7. Data collection method(s):**
*(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy,*

*research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)*

**1.8. If data are from a NOAA Observing System of Record, indicate name of system:**

**1.8.1. If data are from another observing system, please specify:**

**2. Point of Contact for this Data Management Plan (author or maintainer)**

**2.1. Name:**
NOAA Office for Coastal Management (NOAA/OCM)

**2.2. Title:**
Metadata Contact

**2.3. Affiliation or facility:**
NOAA Office for Coastal Management (NOAA/OCM)

**2.4. E-mail address:**
coastal.info@noaa.gov

**2.5. Phone number:**
(843) 740-1202

**3. Responsible Party for Data Management**
*Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.*

**3.1. Name:**

**3.2. Title:**
Data Steward

**4. Resources**
*Programs must identify resources within their own budget for managing the data they produce.*

**4.1. Have resources for management of these data been identified?**

**4.2. Approximate percentage of the budget for these data devoted to data management ( specify percentage or "unknown"):**

**5. Data Lineage and Quality**
*NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.*

**5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible**
*(describe or provide URL of description):*
Process Steps:

- 2007-03-23 00:00:00 - JASPER COUNTY: Utilizing Photo Science's two ALS-50 LiDAR sensors, data was collected to cover Jasper County, South Carolina. Data was collected in a total of 111 flightlines at a pulse rate of 75,000 points per second. COLLETON COUNTY: Utilizing Photo Science's two ALS-50 LiDAR sensors, data was collected to cover Colleton County, South Carolina. Data was collected in a total of 160 flightlines at a pulse rate of 75,000 points per second.  CHARLESTON COUNTY: Utilizing Photo Science's two ALS-50 LiDAR sensors, data was collected to cover Charleston County, South Carolina. Data was collected in a total of 77 flightlines at a pulse rate of 75,000 points per second.  Originally collected from 20061227 through 20070323.
- 2007-10-30 00:00:00 - Raw LiDAR data (collected as Process Step 1) was processed to create a bare ground surface. Process included calibration of LiDAR data to remove systematic errors (utilizing Leica's ALS Processor software), adjustment of elevation data to control positions (utilizing TerraScan software for control comparisons and adjustments), and both automatic and manual editing to correctly classify ground and non-ground data (utilizing TerraScan and TerraModeler software).  In addition, QC steps were performed before and after processing.  QC steps included line-to-line vertical comparisons and coverage checks, and were performed with TerraScan and GeoCue software.
- 2009-01-01 00:00:00 - The ABGPS, IMU, and raw Leica ALS-50 LiDAR data are integrated into the LEICA ALS post processor software. The resultant file is in a LAS binary file format. The LAS file version 1.2 formats can be easily transferred from one file format to another.  It is a binary file format that maintains information specific to the LiDAR data (return#, intensity value, xyz, etc.). The resultant points are produced in the geodetic coordinates referenced to the NAD83 horizontal datum and GRS80 vertical datum.  The date and time for each flight line can be determined using the Julian date and time.
- 2009-01-01 00:00:00 - The unedited data are classified to facilitate the application of the appropriate feature extraction filters. A combination of proprietary filters is applied as appropriate for the production of bare earth digital terrain models ( DTMs).  Interactive editing methods are applied to those areas where it is inappropriate or impossible to use the feature extraction filters, based upon the design criteria and/or limitations of the relevant filters. These same feature extraction filters are used to produce elevation height surfaces. The LiDAR mass points were delivered in American Society for Photogrammetry and Remote Sensing LAS 1.2 format.  The header file for each dataset is complete as define by the LAS 1.2 specification.  In addition the following fields are included:  Flight Date Julian, Year, and Class.  The LAS files do not include overlap.  The data was classified as follows: 1-Unclassified, 2-Ground, 7-Noise,8- Model Key Points,  9-Water,

10-Ignored Ground, 13- Points removed from bridges and culverts.
- 2009-01-01 00:00:00 - Conversion from Geodetic coordinates NAD83 into State Plane coordinates (International Feet) NAD83 and conversion from ellipsoid heights (meters) into orthometric heights (U.S. Survey Feet).
- 2014-01-01 00:00:00 - Dewberry updated the horizontal datum for the 2009 data from NAD83  to NAD83 (NSRS2007) and the vertical datum from NAVD88 (Geoid03) to NAVD88 (Geoid09).  The projection and all units remain the same.  Additionally, Dewberry updated the precision of the lidar data from 2 decimal places to 3 decimal places. Dewberry also reviewed the LiDAR data and removed gross artifacts and anomalies by re-classifying the LiDAR points to more appropriate classes.
- 2014-06-02 00:00:00 - The NOAA Office for Coastal Management (OCM) received the files in laz format via hard drive from Dewberry.  The data arrived referenced to the South Carolina State Plane (3900) and vertical reference to NAVD88 elevation in feet: 1. The data were converted from projected orthometric coordinates to geographic coordinates. 2. Vertical values were converted from NAVD88 to ellipsoidal values using Geoid09. 3. The 2006/2007 data was separated from the 2009 collected points in order to keep the 2 missions separate (collection dates, standards,  data qualities, etc).  The 2007 data was removed by analyzing time stamps for each point in the LAS files in order to differentiate collection year.  The resulting LAS files showed only the 2009 points.  The 2007 data already exists at OCM as part of a previous delivery. 4. The LAS data were stored as compressed LAZ data.

### 5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

### 5.2. Quality control procedures employed (describe or provide URL of description):

## 6. Data Documentation
*The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.*

### 6.1. Does metadata comply with EDMC Data Documentation directive?
No

### 6.1.1. If metadata are non-existent or non-compliant, please explain:
Missing/invalid information:
- 1.7. Data collection method(s)
- 3.1. Responsible Party for Data Management
- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management

- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.1.2. If there are limitations to data access, describe how data are protected
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.3. Approximate delay between data collection and submission to an archive facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

### 6.2. Name of organization or facility providing metadata hosting:
NMFS Office of Science and Technology

#### 6.2.1. If service is needed for metadata hosting, please indicate:

### 6.3. URL of metadata folder or data catalog, if known:
https://www.fisheries.noaa.gov/inport/item/49978

### 6.4. Process for producing and maintaining metadata
*(describe or provide URL of description):*
Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf

## 7. Data Access
*NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.*

### 7.1. Do these data comply with the Data Access directive?

#### 7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?

#### 7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

### 7.2. Name of organization of facility providing data access:
NOAA Office for Coastal Management (NOAA/OCM)

    **7.2.1. If data hosting service is needed, please indicate:**


    **7.2.2. URL of data access service, if known:**
        https://coast.noaa.gov/dataviewer/#/lidar/search/where:ID=3653
        https://coast.noaa.gov/htdata/lidar1_z/geoid18/data/3653

**7.3. Data access methods or services offered:**
This data can be obtained on-line at the following URL: https://coast.noaa.gov/dataviewer/#/lidar/search/where:ID=3653

The data set is dynamically generated based on user-specified parameters.;


**7.4. Approximate delay between data collection and dissemination:**


    **7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:**


# 8. Data Preservation and Protection
*The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.*

**8.1. Actual or planned long-term data archive location:**
*(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)*


    **8.1.1. If World Data Center or Other, specify:**


    **8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:**


**8.2. Data storage facility prior to being sent to an archive facility (if any):**
Office for Coastal Management - Charleston, SC

**8.3. Approximate delay between data collection and submission to an archive facility:**


**8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?**
*Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection*


# 9. Additional Line Office or Staff Office Questions
*Line and Staff Offices may extend this template by inserting additional questions in this section.*